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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/147,428	12/22/1998	YUSUKE SHIOTA	2839-0065-3-	1707

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EXAMINER

CINTINS, IVARS C

ART UNIT	PAPER NUMBER
1724	33

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/147,428

Applicant(s)
Shiota et al.

Examiner
Ivars Cintins

Art Unit
1724



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 12, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-10, 14, 15, 19, and 39-42 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-10, 14, 15, 19, and 39-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. This claim depends from a canceled claim (i.e. claim 30), and is therefore indefinite.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 7, 10, 14, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/13463 in view of Gentry (U.S. Patent No. 5,601,797). WO 96/13463 discloses a wet air oxidation unit comprising a catalytic bed reactor. Accordingly, this reference discloses the claimed invention with the exception of the specific type of catalytic unit employed. Gentry discloses a catalytic unit of the type recited; and it would have been obvious to one of ordinary skill in the art at the time the

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invention was made to substitute the catalytic unit of Gentry for the catalytic unit of WO 96/13463, since this secondary reference catalytic unit is capable of promoting catalytic oxidation of contaminants in a fluid in substantially the same manner as the catalytic unit of the primary reference, to produce substantially the same results. The exact size of the alumina balls utilized in the thus modified primary reference system is not seen to materially affect the overall operation of this system, or to produce any new and unexpected result; and is therefore deemed to be an obvious matter of choice in design, insufficient to patentably distinguish the claims, particularly in view of the disclosure by Gentry that the disclosed alumina balls can have "varying diameters" (see col. 6, line 15).

Claims 8, 9 and 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/13463 and Gentry as applied above, further in view of published European Patent Application No. 0 636 399. The modified primary reference discloses the claimed invention with the exception of the recited vertical partition. Published European Patent Application No. 0 636 399 discloses an apparatus comprising a particulate bed, and teaches the use of a vertical partition (see page 2, right column, lines 25-33) in order to minimize surface movements of the particulate material in the bed. It would have been obvious to one of ordinary skill

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in the art at the time the invention was made to substitute the vertical partition of published European Patent Application No. 0 636 399 for the "holddown grid" of the modified primary reference (i.e. element 108 of Gentry), since this vertical partition is capable of minimizing surface movement of particulate material in substantially the same manner as the holddown grid of the modified primary reference, to produce substantially the same results. The exact height (claims 9 and 42) and cross-sectional area (claims 8 and 41) of this vertical partition are not seen to materially affect the overall operation of the modified primary reference device, or to produce any new and unexpected result; and are therefore deemed to be obvious matters of choice in design, insufficient to patentably distinguish these claims.

Applicant's arguments filed February 12, 2003 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that the particles for the above layer in the present invention have a higher specific gravity than the alumina balls which are used by Gentry. It is pointed out, however, that claim 6 merely requires the use of "rigid metal particles or ceramic particles" as the water-permeable pressure layer (above layer), and does not recite any specific gravity value for these particles.

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Applicant also argues that the specification teaches that in a wet oxidation operation, the preferred granular substance is stainless steel, titanium or zirconium, not alumina. Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that the claims in this application merely require the use of "rigid metal particles or ceramic particles" and, by Applicant's own definition (see page 24, line 16 and page 39, line 21 of the specification), alumina is a member of this grouping.

Lastly, the Ishii declaration filed February 12, 2003 has been noted and carefully considered, but is also not deemed to be persuasive of patentability for the claims in this application because: (1) the claims are not limited to the specific operating conditions (e.g. pressure of 72 kg/cm²G; COD of 1.2 g/liter; and pH of 5.5) under which alumina is not useable; and (2) the claims read on the use of alumina as the material in the water-permeable pressure layer and/or in the dispersing and mitigating layer. As Applicant has correctly noted (page 5, lines 1-5 of the response filed February 12, 2003) the water-permeable pressure layer recited in the claims is a substance having a plurality of rigid metal particles or ceramic particles; and if rigid metal particles are used, they are one of stainless steel, titanium and zirconium. Therefore, the claims in this application merely


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require the use of a material which is stainless steel, titanium, zirconium or ceramic particles. Accordingly, the alumina of Gentry is deemed to satisfy the limitation of "ceramic particles" called for in claims 6 and 15, particularly since Applicant has disclosed in the specification (page 24, line 16 and page 39, line 21) that this same alumina is a material which can be used in the invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

The fax phone numbers for this art unit are: (703) 872-9311 for "Official" faxes after Final Rejection; (703) 872-9310 for all other "Official" faxes; and (703) 872-9492 for "Draft" and other "Unofficial" faxes.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.


Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
March 20, 2003